Intramedullary spinal cord tumor

see Spinal cord tumor.

- Machine learning-driven national analysis for predicting adverse outcomes in intramedullary spinal cord tumor surgery
- Surgical management of a pulmonary neuroendocrine tumor causing epidural spinal cord compression and transdural intramedullary invasion: illustrative case
- Intramedullary schwannoma mimicking ependymoma: illustrative case
- Efficacy of Airway Management Protocol for Cervical Anterior Surgery, Posterior Occipitocervical Fusion, and Intramedullary Tumor Resection
- Intramedullary Glioblastoma as One of Multiple Radiation-Induced Neoplasms
- Low-Grade Primary Intramedullary Spinal Cord Astroblastoma: A Case Report and Literature Review
- Intraoperative neurophysiological monitoring in surgery for spinal intramedullary tumors
- Clinical features and surgical outcomes of pediatric long-level intramedullary spinal cord tumors: a single-institution series of 42 cases

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Tumors in the spine comprise about 15% of all tumors in the central nervous system. They usually are benign and cause symptoms primarily through compression of the spinal cord and nerves. Spinal tumors can be classified into three groups, based on their locations: extradural, intradural-extramedullary, and intramedullary. Extradural tumors are most common, as they occupy the vertebrae body or structures outside the dura. They are most commonly metastatic. Intradural extramedullary tumors are the second most common and come from the leptomeninges or nerve roots. These tumors are located inside the dura but externally from the spinal cord, exemplified by meningiomas or neurofibromas. The least common (2 to 5%) are intramedullary spinal cord tumors (IMSCT); these arise from the spinal cord proper, leading to invasion and destruction of the gray and white matter. Ependymomas and astrocytomas are the most commonly encountered intramedullary spinal cord tumors, followed by hemangioblastomas. Other entities include lipomas, germ cell tumors, gangliogliomas, germinomas, lymphomas, and metastases [1)]

On MRI majority of 12(63.2%) of the cord ependymomas and a majority of 5(62.5%) astrocytomas were in the cervical region. While considering axial location ependymomas are mostly 17(89.5%) central and astrocytomas 5(62.5%) are eccentric in location. It was observed that out of 19 cases of ependymoma more than half 10(52.6%) had elongated shapes, and 12(63.1%) had well-defined margins. Associated syringohydromyelia was present in 16(84.2%) cases. On T1WI 11(57.9%) and 8(42.1%) cases were iso and hypo respectively. On T2WI 14(73.7%) cases were hyper-intense. After Gd-DTPA in most cases, 13(68.4%) cases showed diffuse enhancement. Noticeable and sizeable solid components were observed among 13(68.4%) of the cases. Hemorrhage with a cap sign was found in more than one-third of 7(36.8%) cases. Out of 8 cases of astrocytomas 4(50.0%) had lobulated shape, ill-defined margin 5(62.5%). T1WI: Iso 5(62.5%), hypo 3(37.5%), T2WI: hyper 5(62.5%), After Gd-DTPA: focal and heterogenous enhancement 3(37.5%) and rim enhancement 4(50.0%). Component: mixed 4(50.0%), cystic 3(37.5%) and solid 1(12.5%). Hemorrhage without cap sign 2(25.0%), associated syringohydromyelia 1(12.5%). In the case of evaluation of intramedullary ependymoma

sensitivity of MRI in the present series is 94.44%, specificity 80.0%, Positive predictive value (PPV) 89.5%, Negative predictive value (NPV) 88.9% and accuracy 89.28%. In the case of MRI evaluation of intramedullary astrocytoma sensitivity of MRI in the present study is 85.71%, specificity 90.47%, PPV 75%, NPV 95%, and accuracy 89.2%. Thus present study shows MRI is a sensitive and effective noninvasive imaging modality in diagnosing common intramedullary spinal cord tumors [2)]

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M Das J, Hoang S, Mesfin FB. Intramedullary Spinal Cord Tumors. 2023 Apr 24. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan–. PMID: 28723060.
2)
Sultana N, Jabeen S, Rima S, Nag UK, Sarkar SK. Magnetic Resonance Imaging Evaluation of Common Spinal Intramedullary Tumours: Ependymoma and Astrocytoma. Mymensingh Med J. 2023 Jul;32(3):749-756. PMID: 37391969.